BEFORE THE ARIZONA CORPORATION COMMISSION

LEA MÁRQUEZ PETERSON
Chairwoman
SANDRA D. KENNEDY
Commissioner
JUSTIN OLSON
Commissioner
ANNA TOVAR
Commissioner
JIM O'CONNOR
Commissioner

IN THE MATTER OF ELECTRIC VEHICLES, EV INFRASTRUCTURE, AND THE ELECTRIFICATION OF THE TRANSPORTATION SECTOR IN ARIZONA

DOCKET NO. E-00000A-21-0104

DECISION NO. 78383

ORDER

COMPREHENSIVE TRANSPORTATION ELECTRIFICATION PLAN FOR ARIZONA

Open Meeting
November 2, 2021 and November 3, 2021
Phoenix, Arizona

BY THE COMMISSION:

FINDINGS OF FACT

BACKGROUND

1. On December 27, 2019, Tucson Electric Power Company ("TEP"), UNS Electric, Inc. ("UNS") and Arizona Public Service Company ("APS") (collectively, "the Companies") filed with the Arizona Corporation Commission ("Commission") Phase I of a joint statewide transportation electrification plan to comply with Decision No. 77289, dated July 19, 2019, in the Commission's Docket considering possible modifications to its energy rules.[1]

2. Decision No. 77289 approved an Electric Vehicle Policy Implementation Plan. That plan required Public Service Corporations ("PSCs") to coordinate and jointly develop, with stakeholder input, a joint, long-term, comprehensive transportation electrification plan for Arizona, to be filed by December 31, 2019, for Commission review and approval. The plan was to include

[1] Docket No. RU-00000A-18-0284

all pilot program activities and lessons learned from 2019 and incorporate goals and metrics for evaluating success. Phase I was filed on December 27, 2019.

3. On April 1, 2021, the Companies filed Phase II of the joint statewide transportation electrification plan (Phase I and Phase II together are referred to as "the Plan").

4. On April 30, 2021, the Commission opened Docket No. E-00000A-21-0104 to separately, and more narrowly, consider statewide transportation electrification apart from the larger energy rules docket. Accordingly, statewide transportation electrification filings made to the energy rules docket now will reside in the newly created statewide transportation electrification docket.

5. On August 4, 2021, the Commission held a workshop on Electric Vehicles ("EV"), EV Infrastructure and the Electrification of the Transportation Sector in Arizona where ILLUME and E3 provided an overview of the Plan. At that time, various stakeholders provided comments and recommendations related to general electric vehicle and infrastructure issues that Staff summarizes and includes below for Commission review.

STAFF ANALYSIS AND RECOMMENDATIONS

6. Decision No. 77289 requires that the Plan address elements including pilot programs, rate design (via tariff filings), customer education and outreach, best practices and consumer protections, reporting requirements, and incorporate goals and metrics for evaluating success.

7. The report discusses barriers to the adoption of EVs and possible remedies to overcome those barriers. Those barriers and remedies include the following:

- *Limited awareness of EVs*
  - Outside most consumers' consideration when purchasing a vehicle. Marketing and education by utilities may help.
- *EV model availability*
  - Mainly smaller or luxury and gap not addressable by utilities.
- *Upfront cost premium*
  - Deters customers even if lower total cost of ownership. Employee discounts and automaker engagement by utilities and others may help.
- *Lack of charging infrastructure and related range anxiety*

- Range anxiety due to lack of current installations. Deploying charging stations and advocating for readiness in building codes by utilities and others may help.

- *Rate design*
  - Demand charges present a challenge for EV Service Providers ("EVSPs") at current low utilization rates. Utilities alternate tariffs for EV service providers may help.
- *Lack of dealership incentives*
  - Conventional fossil fuel choices will remain default without additional dealer incentive to sell EVs. Utilities and others engaging automakers may help.
- *Distribution impacts and upgrade costs*
  - As EV loads grow, need to plan and manage charging since upgrade costs may be high. Expanded EV Time-of-Use rates, infrastructure buildout in low-cost areas and pilot programs to understand grid impacts by utilities may help.
- *Integration of renewables*
  - Most EV charging currently performed at home is not aligned with timing of renewable generation. Utility support and expanded workplace charging may help.

. . .

. . .

. . .

. . .

. . .

. . .

. . .

8. This table describes what APS and TEP are already doing and what they plan to do regarding Transportation Electrification ("TE") activities.

Summary of Ongoing or Planned APS and TEP TE Initiatives

Barrier	APS Initiatives	TEP Initiatives
Lack of Collaboration	• Continued engagement in industry events and collaborative working groups • Planned hosting of regular TE collaborative meetings with stakeholders	• Continued engagement in industry events and collaborative working groups • Planned hosting of regular TE collaborative meetings with stakeholders
Inequity in TE Planning	• Planned hosting of regular TE collaborative meetings with stakeholders	• Planned hosting of regular TE collaborative meetings with stakeholders
Education and Outreach	• Participation in events throughout Arizona • Planning additional events for post-COVID timeframe • APS Marketplace; Improving APS EV online content • Take Charge AZ (L2* and DCFC* installation and ownership)	• EV marketing plan • Customer Toolbox • Residential EV Calculator • Fleet Conversion Planning Tool • EV Infrastructure Cost Estimation Tool • Employee EV program and fleet electrification
Access for Underserved Communities	• Take Charge AZ (L2 and DCFC installation and ownership)	• TEP Owned Public DCFC • Smart EV Charging pilot
Insufficient Charging Infrastructure and cost of development	• Take Charge AZ (L2 and DCFC installation and ownership) • New home EV prewire incentive • Transport Refrigeration Units ("TRU") and electric forklift incentive	• Smart Home EV pilot • Smart School EV and EE pilot • Smart EV Charging pilot • EV-readiness incentive
Grid Planning and Capacity Needs	• EV adoption forecasting • Charging analysis • DCFC screening • Load forecasting using residential EV charging data	• 5-yr Strategic EV Roadmap • EV penetration study • Charging siting forecasts • System cost benefit analysis • Load management platform
Electricity Rate Design	• EV rate evaluation for APS or EVSP-operated charging sites • Time of Use ("TOU") rates for residential EV customers	• TOU rates and EV rate discount • Stand Alone EV and Submeter EV rates

*L2 is level 2 charging while DCFC represents direct current fast charge.

. . .

. . .

9. A key component of the Phase II process has been the ongoing involvement of stakeholders representing state and local government agencies, transit agencies, environmental advocates, EV advocates, representatives of under-served communities, academic institutions, automakers, charging service providers, fleet operators, and others. The group provided insights and perspectives on TE and developed a set of priority actions for key actors in the TE space. Near-term actions (one year) include continued stakeholder engagement and coordination, charging station siting studies, and interconnection process support. Medium-term actions (one to four years) include pilot program development, enacting TE legislation, and charging station deployment. The following table lists the proposed actions and the barriers addressed by those actions.

Stakeholder Working Group Recommended Near-and Medium-term Actions

Actor	Priority	Action	Barrier(s) Addressed
Electric Utilities	Near	Continue stakeholder coordination meetings, prioritize inclusion of diverse voices	• Lack of collaboration • Inequity in TE planning
		Develop new and expand existing education and outreach programs	• Education and outreach
		Establish dedicated electrification teams	• Insufficient charging infrastructure
		Develop incentive programs for EVs and/or EV charging infrastructure	• Upfront cost • Insufficient charging infrastructure
	Medium	Develop EV rates	• Electricity rate design • Insufficient charging infrastructure
		Implement pilot charging programs and begin to deploy additional charging infrastructure; emphasize deployment in underserved communities	• Insufficient charging infrastructure • Grid planning and capacity needs • Access for underserved communities • Education and outreach
		Electrify fleet vehicles	• Education and outreach • Grid planning and capacity needs

State and/or Local Government	Near	Support and participate in TE collaborative process; focus on inclusive planning model and diversity of voices	• Lack of collaboration • Access for underserved communities • Inequity in TE planning • Model availability • Upfront cost • Access for underserved communities • Inequity in TE planning
	Medium	Enact Zero Emissions Vehicle legislation (State)	• Model availability
		Develop and/or support Group Purchase programs and EV funding mechanisms such as loan-loss reserves	• Upfront cost • Access for underserved communities • Inequity in TE planning
		Develop incentive programs for EV and/or charging infrastructure purchase (State)	• Upfront cost • Insufficient charging infrastructure
		Implement EV Ready building codes (Local)	• Insufficient charging infrastructure
		Develop rideshare programs for underserved communities	• Access for underserved communities • Education and outreach
Representatives of Under-served Communities	Near	Engage in collaborative TE planning processes and promote inclusive planning model	• Access for under-served communities • Inequity in TE planning • Lack of collaboration
	Medium	Partner with utilities and public agencies on education and outreach, rideshare/ micro mobility, and training programs	• Education and outreach • Access for underserved communities • Inequity in TE planning
Transit Agencies	Medium	Initiate pilot electrification programs	• Technology readiness • Grid planning and capacity needs

and/or Fleet Operators		Purchase diverse model types to explore capabilities and limitations; share knowledge	• Technology readiness
Third Party EV Service Providers (EVSPs)	Near	Engage in collaborative TE planning processes	• Lack of collaboration
		Collaborate with utilities on improving interconnection processes	• Insufficient charging infrastructure
	Medium	Develop additional public and workplace charging infrastructure; prioritize service coverage in underserved communities	• Insufficient charging infrastructure • Education and outreach • Access for underserved communities • Inequity in TE planning

Proposed EV Goals

10. APS and TEP support a statewide goal for the number of EVs on the road by 2030.

2030 EV Goals proposed by APS and TEP

Vehicle Segment	**2030 EV Goal (Vehicles on the Road)**		
	APS	**TEP**	**State**
Electric Light Duty Vehicles	450,000	95,000	1,076,000
Electric Medium Duty Parcel Delivery Trucks	1,450	545	3,380
Electric Transit Buses	290	110	785
Electric School Buses	525	200	1,425

Timelines

11. The Companies plan to update the Plan every three years. TEP and APS plan to meet jointly on an annual basis to discuss the Plan and quarterly the Companies plan to individually hold stakeholder meetings to discuss the Plan.

12. Decision No. 77289 requires PSCs participating in EV pilot programs to annually provide written reports containing information gathered from the programs for Commission evaluation and recommendations.

. . .

. . .

. . .

. . .

Public Presentation of the Plan

13. On August 4, 2021, ILLUME and E3, third party consultants who assisted the Companies' preparation of the Plan, provided an overview of the Plan at the Commission's Workshop. At that time, the Commissioners, Staff, the public and other workshop attendees had the opportunity to ask questions about the Plan.

Summary Recommendations: Workshop Stakeholder Presentations

14. At the Workshop, in addition to the Companies and ILLUME and E3, a total of 13 stakeholders made presentations. Below are presenter recommendations for next steps.

- Utilities be required to file, and update, plans every three years and provide annual reports.
- TEP and APS to meet annually about the Plan.
- TEP and APS to meet quarterly with stakeholders about the Plan.
- The Commission should adopt policies supporting EV market development, encourage public/private relationships, and protect customers.
- Support development of EV utility rates for public fast charging, home charging, fleet charging, and line extensions.
- The Commission should codify high adoption scenarios contained in the Plan and communicate key milestones as they occur to Arizonans.
- All parties should encourage local and state leadership with respect to the development and implementation of EV policy.
- Relevant parties should take steps to prepare the electric grid for EV loads
- Robust consumer education and outreach should occur.
- Low to Moderate Income customers/disadvantaged communities should be prioritized.
- Utilities to develop dedicated TE staff.
- Best practices should be adopted for the Plan.
- Utilities should track Plan costs through an accounting order.

. . .

15. Based on the foregoing analysis, Staff recommends approval of the Plan as filed. However, Transportation Electrification is a multi-jurisdictional issue. Entities such as other state agencies, local government agencies, transit agencies, and federal government agencies are or will be involved. Since the Commission does not have jurisdiction over those entities, the Commission will need to collaborate with those agencies/entities to effectively implement the Plan.

16. In addition, Staff recommends that TEP and APS provide semi-annual progress reports by January 15 and June 15 of each year.

17. However, we believe the reporting requirements should be modified to March 15 and September 15 of each year.

CONCLUSIONS OF LAW

1. Tucson Electric Power Company, UNS Electric, Inc., and Arizona Public Service Company are public service corporations within the meaning of Article XV of the Arizona Constitution.

2. The Commission has jurisdiction over Tucson Electric Power Company, UNS Electric, Inc., and Arizona Public Service Company and the subject matter of the application.

3. The Commission having reviewed the application and Staff's Memorandum, concludes that it is in the public interest to grant approval of the joint, comprehensive transportation electrification plan for Arizona filed by Tucson Electric Power Company, UNS Electric, Inc. and Arizona Public Service Company.

ORDER

IT IS THEREFORE ORDERED that the joint, comprehensive transportation electrification plan for Arizona submitted by Tucson Electric Power Company, UNS Electric, Inc. and Arizona Public Service Company is hereby approved.

. . .

. . .

. . .

. . .

. . .

. . .. . .

IT IS FURTHER ORDERED that Tucson Electric Power Company and Arizona Public Service Company shall file semi-annual progress reports with the Commission detailing the status and implementation of the plan, by March 15 and September 15 of each year. At a minimum, as applicable, these reports shall provide a commensurate level of detail as provided by each utility in their semi-annual and annual demand-side management reports and shall incorporate any program plan updates that the utilities intend to institute. In these reports, Tucson Electric Power Company, UNS Electric, Inc., and Arizona Public Service Company shall also make all reasonable efforts to report on their progress relative to the Participation, Environmental, and Economic metrics established in the plan.

IT IS FURTHER ORDERED that Arizona Public Service Company and Tucson Electric Power Company shall include in their respective semi-annual progress reports the status, budget, and expenses associated with the implementation their respective green fleet initiatives ("Fleet Electrification Status Update"), including the following: (a) the total number of light-, medium-, and heavy-duty vehicles owned or leased by each utility (disaggregated by type, such as but not limited to bucket truck, trouble truck, digger derrick, boom truck, forklift, all-terrain, golf cart, and light-duty passenger, etc.) that have been converted or transitioned to all-electric or plug-in hybrid electric vehicles to-date, and (b) the percentage of each utility's respective fleet that such total number of converted or transitioned vehicles represents.

IT IS FURTHER ORDERED that Arizona Public Service Company and Tucson Electric Power Company shall include in their respective Fleet Electrification Status Updates a projection of the number of light-, medium-, and heavy-duty vehicles owned or leased by the utility (disaggregated by type) that the utility expects to retire, renew, or replace by the date of filing its next Fleet Electrification Status Update and, with respect to such projection, include the following: (i) the number of each type of vehicle the utility anticipates converting or transitioning to all-electric or plug-in hybrid electric vehicles (disaggregated by all-electric and plug-in hybrid electric), (ii) the total anticipated operating and capital expenses associated with each and all such conversions or

transitions (disaggregated by operating and capital expenses), and (iii) an estimate of the total net annual operating expenses the utility expects to save or incur, and the total net rate base amounts the utility expects to add or subtract, as a result of converting or transitioning each and all such vehicles to all-electric or plug-in hybrid electric vehicles.

IT IS FURTHER ORDERED that within 120 days of this decision Arizona Public Service Company, Tucson Electric Power Company, and UNS Electric, Inc., shall each develop and file for Commission review and approval a budget for each of the approved programs discussed herein.

IT IS FURTHER ORDERED that beginning on June 1, 2022, and at a minimum every three years thereafter, Tucson Electric Power Company, UNS Electric, Inc., and Arizona Public Service Company shall each file a new transportation electrification implementation plan for review and approval by the Commission within 180 days. Plans shall be developed with the input of a stakeholder collaborative that meets at least quarterly and, at a minimum, shall include programs and associated budgets to address key barriers to electric vehicle adoption and that provide offerings to serve low-income customers, single-family dwellings, multi-family dwellings, commercial customers, industrial customers, public highway corridors, and public fleets. At minimum, plans should anticipate and prepare for the achievement of the "High Adoption Scenario" described in the 2021 plan. The plans proposed by the utilities, as a whole, shall be designed to:

1. Provide benefits to electric utility ratepayers and electric vehicle drivers,
2. Improve the electrical system's efficiency, the integration of variable resources, the system's operational flexibility, and utilization of the system during off-peak hours,
3. Increase access to the use of electricity as a transportation fuel, including among hard-to-reach customer segments and markets,
4. Spur innovation, competition, and increased consumer choices in transportation electrification and related infrastructure and services,
5. Contribute to meeting air quality standards and minimizing air emissions, including greenhouse gases,
6. Foster private market investment,

7. Provide for sufficient stakeholder engagement and public reporting,
8. Educate electric utility ratepayers on the benefits of electrified transport, and
9. Be reasonable and prudent, as determined by the Commission.

IT IS FURTHER ORDERED that this Decision shall become effective immediately.

BY THE ORDER OF THE ARIZONA CORPORATION COMMISSION

CHAIRWOMAN MARQUEZ PETERSON COMMISSIONER KENNEDY

DISSENT **ABSTAINED**

COMMISSIONER OLSON COMMISSIONER TOVAR COMMISSIONER O'CONNOR

IN WITNESS WHEREOF, I, MATTHEW J. NEUBERT, Executive Director of the Arizona Corporation Commission, have hereunto, set my hand and caused the official seal of this Commission to be affixed at the Capitol, in the City of Phoenix, this 28 day of December, 2021.

MATTHEW J. NEUBERT
EXECUTIVE DIRECTOR

DISSENT:

DISSENT:

EOA:CN:cj/MGC

Comprehensive Transportation Electrification Plan for Arizona
Docket No. (E-00000A-21-0104)